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10/668,113

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Foster D. Hinshaw

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EXAMINER

FLEURANTIN, JEAN B

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/668,113	<b>Applicant(s)</b> HINSHAW ET AL.	
	<b>Examiner</b> JEAN B. FLEURANTIN	<b>Art Unit</b> 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

*Response to Amendment*

1. This is in response to Applicant(s) arguments filed on 11/13/2007.

The following is the current status of claims:

Claims 1-31 remain pending for examination.

The Terminal Disclaimer filed on 11/13/2007 has been entered and fully considered.

Applicant's arguments filed 11/13/2007, with respect to claims 1-31 have been fully considered but they are not persuasive for the following reasons, see sections I (response to arguments) and II (repeated rejections).

*Response to Arguments*

I. Applicant's arguments start from page 10 through page 13.

Applicant's arguments with respect to claims 1-31 have been fully considered but they are not persuasive in part. Because, the prior art of record discloses the claimed limitations.

Apparently the "claim 7" (see line 3) of the recent "**Claim Listing**" different from the previous "claim 7".

Applicant indicates, page 10, section (*Objections to the Specification*), that "*The Abstract is being amended to correct this error.*" The arguments have been fully considered and are persuasive. Therefore, the objections have been withdrawn.

Applicant indicates, page 10, section (*Double Patenting*), that "A Terminal Disclaimer is being filed concurrently with this Amendment to disclaim any terminal part of a patent that may issue from the Application that extends beyond the expiration of U.S. Patent Applications No. 10/666,729 and 10/667,128. Accordingly, the double patenting rejection of Claims 1 is believed to be overcome."

The arguments have been fully considered and are persuasive. Therefore, the rejections have been withdrawn.

Applicant's arguments, page 10, section (*Rejection of Claims 6, 10, 23 and 30 under 35 U.S.C. § 112*), that "Claims 6, 10, 23 and 30 are being amended to correct this error. As a result, the § 112 rejection of Claims 6, 10, 23 and 30 is believed to be overcome." The arguments have been fully considered and are persuasive. Therefore, the rejections have been withdrawn.

Applicant's arguments, page 12, section (*Rejection of Claims 9, 12 and 13 under 35 U.S.C. § 102*) that "Kabra does not disclose a Programmable Streaming Data Processor (PSDP)."

It is noted that Kabra discloses the network streams are used to move data between operators either through shared-memory or across a communications network via a transport protocol. In addition to providing transparent communication between operators on the same or different processors, network

streams also provide a flow-control mechanism that is used to regulate the execution rates of the different operators in the pipeline. Network streams can be further specialized into split streams which are used to demultiplex an output stream into multiple output streams based on a function being applied to each tuple; see col. 7, line 61 to col. 8, line 5.

Applicant's arguments, page 13, section (*Rejection of Claims 9, 12 and 13 under 35 U.S.C. § 103(a)*), that "no combination of Kabra and Ozbutun teaches or suggests the present invention as recited in Claims 9, 12 and 13."

It is noted that Kabra discloses the client transmits a request for the master data; see col. 11, 50-54. Further, in col. 7, lines 19-26, Kabra discloses the communication is between processors on a symmetric multiprocessing system, memory used as the transport vehicle.

In response to applicant's argument, page 16, that "no combination of Kabra and Ozbutun teaches or suggests the present invention as recited in Claims 9, 12 and 13," the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the instant application relates to data processing systems that make use of multiple processing unit groups, and in particular to an asymmetric architecture that allows for autonomous and asynchronous operation of processing units and streaming of record data processing; see specification page 2, lines 4-10.

Accordingly, Kabra discloses the database system, a client server architecture, query scheduler, query coordinator and data servers; see col. 7, lines 2-26. Further, col. 9, lines 31-34, Kabra discloses Information and argument transmitting over network from one node to another.

Ozbutun discloses the database system responds to the commands by performing the specified actions on the database managed by the database system; see col. 1, lines 10-18.

Therefore, the combination of Kabra in view of Ozbutun discloses the claimed limitations.

Furthermore, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

MPEP 2111: During patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification" Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In *re Prater*, 162 USPQ 541,550-51 (CCPA 1969). The court found that applicant was advocating ... the impermissible importation of subject matter from the specification into the claim. See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the "PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definition or otherwise that may be afforded by the written description contained in application's specification.").

The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. In *re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).

For the above reasons, it is believed that the last Office Action dated 09 August 2007 was proper. Therefore, the rejection is maintained.

***Claim Rejections - 35 USC § 102***

II. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8, 10, 11 and 14-31 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,507,834 issued to Kabra et al., ("Kabra").

As per claim 1, Kabra discloses "an asymmetric data processor comprising: a first group of nodes comprising one or more host processors, each host comprising a memory, a network interface, and one or more Central Processing Units (CPUs), wherein each host accepts and responds to queries for data, and transforms such queries into one or more jobs" (i.e., user interface, SQL queries, transforms query into extended SQL syntax and transmits to data server; see col. 9, line 66 to col. 10, line 5);

"a second group of nodes comprising ~~one or more~~ a plurality Job Processing Units (JPUs), wherein each JPU comprises: a memory, for storing data a network interface" (i.e., communicating between processors on a symmetric multiprocessing system, memory used as the transport vehicle; see col. 7, lines 19-26 & Fig. 1), "for receiving data and instructions a streaming data interface" (see col. 10, lines 28-35), "for receiving data from a streaming data source" (see col. 8, lines 6-9);

"one or more general purpose CPUs, for responding to requests from at least one host computer in the first group, and to requests from other JPUs in the second group" (i.e., client transmits request for the master data; see col. 11, lines 50-52 and Fig. 6A, item 618) [,.] ; and

"one or more Programmable Streaming Data Processors (PSDPs), ~~which~~ configured to perform primitive filtering functions directly on data received from the streaming data interface" (see col. 10, lines 49-50), "each PSDP thus performing initial processing on a set of data; and a network connecting the

nodes within each group and between the two groups [[,]] ; and wherein a JPU at the second group of nodes is configured to receive[[s]] jobs from one or most nodes in the first group, performs work requested by the jobs, and generate a result based on the work ~~forms a reply~~" (i.e., transmitting over network from one node to another; see col. 9, lines 31-34).

As per claim 2, Kabra discloses "the data comprises structured records, and the structured records further comprise fields of various lengths and data types" (see col. 6, lines 54-58).

As per claims 3 and 6, Kabra discloses "the ~~primitive~~ filtering functions performed by the PSDPs comprise field-level filtering" (see col. 10, lines 49-50).

As per claim 4, Kabra discloses "the streaming data interface is an industry-standard mass storage interface" (see col. 7, lines 44-47).

As per claims 5 and 7, in addition to claim 1, Kabra further discloses "at least one selected PSDP performs Boolean comparisons of record field values against other values" (see col. 33-37).

As per claims 8 and 10, in addition to claim 1, Kabra further discloses "the selected PSDP filters out fields of records that are not needed for particular queries, projecting forward into JPU memory those fields that are needed" (see col. 8, lines 6-9).

As per claim 11, Kabra discloses "the streaming data interface is connected to receive data from a peripheral device selected from the group consisting of disk drive, network interface, and other streaming data source" (see col. 9, line 66 to col. 10, line 2).

As per claims 18 and 19, Kabra discloses "in which the host computers in the first group contain software comprising a plan link component, which determines a query execution plan, the query execution plan further having portions that will be processed by a PSDP, portions that will be processed by a JPU after a PSDP has returned data to the JPU, and portions that will be processed by a host, after the JPU has returned data to the host group" (see col. 9, line 66 to col. 10, line 5 and col. 7, lines 38-40).

As per claims 14-17 and 20-31, the limitations of claims 14-17 and 20-31 are similar to claims 1-11 and 18-19, therefore, the limitations of claims 14-17 and 20-31 are rejected in the analysis of claims 1-11 and 19-20, and these claims are rejected on that basis.



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,507,834 issued to Kabra et al., ("Kabra") in view of USPN 6,658,405 issued to Ozbutun ("Ozbutun").

As per claims 9 and 12, Kabra substantially discloses the claimed limitation except the PSDP output data may contain projected fields not contained in the source data, such as row address, transforms, results of expression evaluation, results of bit joins, and results of visibility tests (see Ozbutun col. 4, lines 51-53 and col. 4, lines 54-558); and a selected PSDP performs a join operation, where the field values being joined have a small range of values, so that the presence or absence of a particular value can then be encoded as a bit within a sequence of bits, whose position within the sequence corresponds to the field value (see Ozbutun col. 1, lines 57-59). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the process of Kabra by results of bit joins, where the field values being joined have a small range of values, so that the presence or absence of a particular value can then be encoded as a bit within a sequence of bits, whose position within the sequence corresponds to the field value as disclosed by Ozbutun (see Ozbutun col. 1, lines 56-59). Such a modification would allow the process of Kabra to provide an index associates ranges with records that hold key field values that fall within those ranges (see Ozbutun col. 2, lines 45-46), thereby, improving the accuracy of the programmable streaming data processor for database appliance having multiple processing unit groups.

As per claim 13, the limitations of claim 13 are similar to claim 12, therefore, the limitations of claim 13 are rejected in the analysis of claim 12, and this claim is rejected on that basis.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### CONTACT INFORMATION

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is 571 – 272-4035. The examiner can normally be reached on 7:05 to 4:35.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571 – 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean Bolte Fleurantin

Primary Patent Examiner

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